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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) PA2699US	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on _____  Signature _____  Typed or printed name _____		Application Number 10/772,926	
		Filed February 4, 2004	
		First Named Inventor Glen McLaughlin et al.	
		Art Unit 3768	Examiner Vani Gupta

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

applicant/inventor.  
 assignee of record of the entire interest.  
 See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
 (Form PTO/SB/96)  
 attorney or agent of record.  
 Registration number 60,379  
 attorney or agent acting under 37 CFR 1.34.  
 Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

/deepa ravindranath/

Signature

Deepa Ravindranath

Typed or printed name

650-812-3400

Telephone number

June 17, 2009

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
 Submit multiple forms if more than one signature is required, see below\*.

<input checked="" type="checkbox"/>	*Total of <u>1</u> forms are submitted.
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**APPLICANTS:** Glen McLaughlin et al.

**APPLICATION NO. :** 10/772,926

**FILING DATE:** February 4, 2004

**TITLE:** System for Phase Inversion Ultrasonic Imaging

**EXAMINER:** Vani Gupta

**ART UNIT:** 3768

**CONF. NO.:** 6059

**ATTY.DKT.NO.:** PA2699US

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**BRIEF IN SUPPORT OF PRE-APPEAL REQUEST FOR REVIEW**

The Examiner has rejected claims 1-8, 10-16, and 18-24 under 35 U.S.C. §103(a) as being unpatentable over U.S. patent number 6,120,448 to *Bradley* in view of U.S. patent number 4,917,097 to *Proudian*. The Applicants respectfully disagree with the Examiner's characterization and application of *Proudian* in conjunction with *Bradley*, and respectfully request pre-appeal brief review of the same.

*Proudian* discloses a dynamic signal averager, which "signal average[s] the detected ultrasonic signals...in order to produce a single collective signal." *Proudian*, col. 19, l. 1-2. (emphasis added) *Proudian* keeps a "running average—that is, a new average is calculated upon the reception at the dynamic signal averager of each new reflection signal." *Proudian*, col. 19 l. 4-7. In addition, "an obvious alternative is to collect all the reflection signals and make a single averaging calculation." *Proudian*, col. 19, l. 8-9. (emphasis added).

**Error I: The Examiner has equated “signal averaging” as taught in *Proudian* with ‘arithmetic averaging’ taught by the Applicants**

The Examiner relies on *Proudian* to teach the Applicants’ claimed receiver and raw data averager unit. The receiver and raw data averager, as claimed by the Applicants, ‘provid[es] a point-by-point **arithmetic average**.’ *Proudian*’s disclosure, however, is limited to the assumptions of **signal averaging**. These assumptions include, for instance, that noise is not correlated with the signal (i.e. noise is random), and that the temporal position of each signal waveform must be accurately known.

The Examiner has not appreciably demonstrated how “**signal averaging**” which is known in the art and taught by *Proudian*, renders obvious the “point-by-point **arithmetic average**” as taught by the Applicants. Further to this point, the Applicants disclose, in the *Specification*, that “various forms of averaging techniques have been employed to reduce the noise, but averaging alone is ineffective in locating images of interest between tissues with similar densities.” *Specification*, [0004]. *Proudian*, absent further evidence from the Examiner, would fall into this category of ineffectiveness notwithstanding its combination with *Bradley*.

**Error II: The Examiner has failed to consider the plain and ordinary meaning of the ‘point-by-point’ arithmetic average’ provided by the receiver and raw data averager**

As discussed *supra*, the Examiner relies on *Proudian* to disclose the Applicants’ claimed receiver and raw data averager unit. The receiver and raw data averager ‘provid[es] a **point-by-point** arithmetic average of the received at least two out-of-phase- pulses modified by the media of interest.’ *Proudian*, however, refers to a “**running average**” which yields a **single averaging calculation** that represents **all** the detected ultrasound

signals, as quoted *supra*. *Proudian*, therefore, does not disclose the ‘**point-by-point** arithmetic average’ provided by the receiver and raw data averager as claimed by the Applicants.

## CONCLUSION

*Proudian*, in combination with *Bradley*, fails to disclose each and every element of the independent claims, including at least a ‘receiver and raw data averager unit providing a point-by-point arithmetic average of the received at least two out-of-phase- pulses modified by the media of interest.’

Respectfully submitted,  
Glen McLaughlin et al.

June 17, 2009

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